

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus to selectively remove a conductive layer from a substrate, the apparatus comprising:

a potentiostat having a counter electrode terminal to couple to a counter electrode, a reference electrode terminal to couple to a reference electrode, and a working electrode terminal to couple to a portion of the conductive layer to be selectively removed of the substrate by an independent clip, the substrate having sub-micron interconnect features;

a tank to store an electrolyte solution; and

wherein during selective removal of the conductive layer, the counter, reference, and working electrodes are immersed into the electrolyte solution and a potential difference between the substrate and the reference electrode is maintained at a fixed value and the selective removal of the conductive layer is ended when a second current value between the substrate and the counter electrode is substantially lower than a first current value.

2. (Original) The apparatus of claim 1, wherein the apparatus is configured to vary a current between the substrate and the counter electrode to maintain the potential difference between the substrate and the reference electrode at a fixed value.

3. (Original) The apparatus of claim 1, wherein the conductive layer of the substrate is etched on a conductive barrier layer surface of the substrate.

4. (Original) The apparatus of claim 1, wherein the conductive layer includes nickel.

5. (Original) The apparatus of claim 1, wherein the sub-micron interconnect features include a noble metal.

6. (Original) The apparatus of claim 1, wherein the noble metal includes copper.

7. (Original) The apparatus of claim 1, wherein the barrier layer includes titanium nitride.